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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/019,120	01/30/2002	Rauno Rantanen	3397-111PUS	1903

7590 01/18/2006
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EXAMINER

TUROCZY, DAVID P

ART UNIT	PAPER NUMBER
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1762

DATE MAILED: 01/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/019,120

Applicant(s)

RANTANEN, RAUNO

Examiner

David Turocy

Art Unit

1762

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 20-67 and 76-89 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 20-67 and 76-89 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/26/2005 has been entered.

Response to Amendment

2. The applicant's amendments, filed 10/26/2005, have been fully considered and reviewed by the examiner. The examiner notes the amendments to claims 20 and 57 and the addition of new claims 86-89. Claims 20-67 and 76-89 remain pending.

3. The indicated allowability of claims 78-85 is withdrawn in view of the newly discovered reference(s) applied in the art rejection below.

Response to Arguments

4. Applicant's arguments with respect to claims are directed to newly amended claims and are therefore considered moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

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The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. Claims 20-67, 76, 77, and 86-89 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The added limitations, "jets being formed solely by the openings" and "jets... are formed solely by said openings" to claims 20 and 57 respectively, appear to be new matter. The examiner has reviewed the entire specification, including the passages cited by the applicant as support for such a limitation, and the disclosure does not reasonably convey to one of ordinary skill in the art that the inventors at the time of the invention had possession of forming a jet solely by the openings in the nozzle plate. The closest disclosure is "in the openings" the jets are formed, see page 5, lines 36-37. The disclosure does not convey that the only factor in forming the jets is the openings, and discloses pressure of the liquid feed is a factor as discussed in the specification page 6, lines 5-20). For example, if the pressure was greater on the outside of the "openings" no jets would be formed and therefore the pressure must affect the jets formation. While the examiner acknowledges the openings are an integral part in forming the jets, the disclosure does not reasonably convey the opening solely form the jets.

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Claims 20-67, 76, 77, and 86-89 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The claims as written requires forming jets *solely* by openings in the at least one nozzle plate, however the formation of the jets is clearly a function of other factors including pressure or gravity and the specification does not clearly enable one of ordinary skill in the art to form jets solely by the openings.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 88-89 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 88 is an apparatus claim dependant from a method claim (28), which is improper because it is inclusive of multiple statutory classes. It appears from the disclosure claim 88, it should more reasonably be limiting to claim 58, an apparatus claim. For the purposes of applying prior art the examiner will interpret claim 88 to more reasonably depend from claim 58.

Claim Rejections - 35 USC § 102

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

10. Claims 78, 82 and 85 are rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 4901093 by Ruggiero et al., hereafter Ruggiero.

Ruggiero teaches a method of applying a treating agent onto a moving surface by feeding the agent into a chamber and then forming jets by directing the treating agent through the openings in a nozzle plate, wherein the entire peripheries of the openings are defined by the plate (Figure 1, abstract). Riggiero discloses directing the jets toward the moving surface and moving the nozzle plate transversely relative to the direction of the moving surface (Figure 1, Column 3). When ejecting the coating near the edges of the moving surface, the nozzle plate will inherently be outside of the width of the moving surface, see figure 1 where the orifices are located in the center of the moving nozzle plate.

The other issues are mere intended use of the apparatus and it is well settled that the intended use of a claimed apparatus is not germane to the issue of the patentability of the claimed structure. If the prior art structure is capable of performing the claimed use then it meets the claim. *In re Casey*, 152 USPQ 235, 238 (CCPA 1967); *In re Otto*, 136 USPQ 459 (CCPA 1963).

Claim 82: Ruggiero discloses controlling the amount of fluid applied to the moving surface by controlling the amount of fluid exiting the nozzle plate, which would inherently be a function of the volume flow (Column 5, lines 37-58).0

11. Claim 83 is rejected under 35 U.S.C. 102(b) as being anticipated by US Patent 5649867 by Briggs.

Briggs teaches of an apparatus for spreading a treating agent (water) onto a moving surface (people) (Abstract). Briggs discloses atleast one feeding chamber and a nozzle plate (107), including openings and having a length greater than a width of the moving surface (Figure 1). Briggs teaches the opening comprise a periphery defined entirely by the nozzle plate and forming said jets of the treating agent by the opening for directing the treating agent toward the moving surfaces (Figures). Briggs discloses providing actuators connected to the nozzle plate to allow for movement (Column 7, lines 40-47). The other issues are mere intended use of the apparatus and it is well settled that the intended use of a claimed apparatus is not germane to the issue of the patentability of the claimed structure. If the prior art structure is capable of performing the claimed use then it meets the claim. *In re Casey*, 152 USPQ 235, 238 (CCPA 1967); *In re Otto*, 136 USPQ 459 (CCPA 1963).

Claim Rejections - 35 USC § 103

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claim 79 and 84 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruggiero in view of US Patent 5790147 by Hensel, hereafter Hensel.

Ruggiero teaches all the limitations of these claims as discussed above, however, the reference fails to teach of providing steam to clean the nozzle plate.

However, Hensel, teaching of a similar ink jet printer, discloses directing steam at a nozzle plate with a plurality of orifices in order to clean the openings from clogging (abstract, column 1, lines 55-65). Hensel discloses the steam provides the advantage of softening the sediments clogged in the nozzle plate and provide better cleaning (Column 2, lines 49-56).

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Ruggiero to use the steam cleaning as suggested by Hensel with a reasonable expectation of success to reap the benefits of removing easily removing sediments from the nozzle orifices.

14. Claim 80 and 85 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ruggiero in view of US Patent 5405087 by Waryu et al. ("Waryu").

Ruggiero teaches all the limitations of these claims as discussed above, except they fail to teach cleaning the nozzle plate utilizing a needle-shaped water jet.

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However, Waryu, teaching of applying a coating through a pressurized jet, discloses cleaning the opening in the nozzle by directing a needle-shaped water jet at the nozzle (Figure 1, Column 4, lines 21 – 37). Waryu discloses that such a cleaning jet will wash off and prevent any accumulating of the spray material on the nozzle (Column 5, lines 57-51).

Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify Ruggiero to clean the openings of the nozzle with a water jet suggested by Waryu to provide a desirable prevention of accumulation of coating material on a nozzle because Ruggiero teaches coating a substrate through an orifice and Waryu teaches that when coating a substrate using a nozzle it is advantageous to provide a cleaning water jet to wash off and prevent accumulation of coating material on the nozzle.

15. Claim 81 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ruggiero in view of Waryu taken further in view of WO96/10463 by Kunze-Concewitz ("Künze-Concewitz").

*** Please note US Patent 5964952 by Kunze-Concewitz is the patent, which issued from the national stage application based on WO96/10463. This patent is being used as an English translation of WO WO96/10463, therefore all references to column and line number are found in 5964952 ***

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Ruggiero in view of Waryu teaches all the limitations of these claims as discussed in the 103(a) rejection above, except they fail to teach cleaning the nozzle plate with ultrasound.

However, Kunze-Concewitz, teaching of a method of cleaning a surface with water, discloses conventional cleaning methods include ultrasound and spraying water at high pressure from a nozzle (Column 1, lines 10-17). While it is noted that Kunze-Concewitz teaches a method of cleaning a surface, Kunze-Concewitz is utilized here to show that it is known in the art to clean a surface using any number of conventional cleaning methods including ultrasound and high-pressure water.

Therefore, it would have been obvious to one skilled in the art at the time of the invention to modify Ruggiero in view of Waryu to use the ultrasound cleaning method as suggested by Kunze-Concewitz to provide a desirable nozzle cleaning because

Ruggiero in view of Waryu teaches cleaning a nozzle with a high pressure water jet and Kunze-Concewitz teaches ultrasound cleaning is a known substitute to high pressure water jet to clean a surface. Please note that the test of obviousness is not an express suggestion of the claimed invention in any or all references, but rather what the references taken collectively would suggest to those of ordinary skill in the art presumed to be familiar with them (*In re Rosselet*, 146 USPQ 183).

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patent 5736195, US Patent 2249274, US Patent 4618100,


US Patent 6036105, and US Patent 6130682 are cited here as teachings of a nozzle plate for forming jets of treating agents onto a substrate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to David Turocy whose telephone number is (571) 272-2940. The examiner can normally be reached on Monday-Friday 8:30-6:00, No 2nd Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Timothy Meeks can be reached on (571) 272-1423. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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AU 1762


TIMOTHY MEEKS
SUPERVISORY PATENT EXAMINER